

## REMARKS

### ***Overview***

In the Office Action under reply, claims 1-33 are pending. Claims 7-33 are under consideration for their merits, claims 1-6 having been withdrawn as directed to non-elected subject matter. Applicants acknowledge with appreciation the Examiner's recognition of allowable subject matter on page 4 of the Action (i.e., the subject matter of claims 12, 27, 20, and 21). The claims have been rejected as follows:

(1) claims 13-18 are rejected under 35 U.S.C. §112;

(2) claims 7-9 and 22-24 are rejected under 35 U.S.C. §102 as anticipated by Loh et al., *Tetrahedron Letters*, **1999**, 40:9333-9336 ("Loh");

(3) claims 7, 13-18, 22, and 28-33 are rejected under 35 U.S.C. §102 as anticipated by Urry et al., *J. Org. Chem.*, **1968**, 33(6):2302-2310 ("Urry"); and

(4) claims 7-11, 13-19, 22-26, and 28-33 are rejected under 35 U.S.C. §102 as anticipated by Nagai et al., *Chem. Pharm. Bull.*, **1992**, 40(3), 593-598 ("Nagai");

In addition, claims 20, 21, and 27 are objected to as dependent upon a rejected base claim.

The rejections and objections are overcome in part by the amendments made herein, and are otherwise traversed for at least the reasons set forth below.

### ***Claim amendments***

With the amendments made herein, claim 7 has been amended to more specifically describe the structures of the olefinic reactant (i.e., formula (I)) and the fluorinated ketone (i.e., formula (II)). Definitions for R<sup>1</sup> to R<sup>5</sup> are provided, and such definitions are supported (for example) by original claims 8 and 9. Definitions for R<sup>6</sup> and R<sup>7</sup> are provided, and such definitions are supported (for example) by original claim 13. The proviso added to claim 7 pertaining to R<sup>6</sup> and R<sup>7</sup> is supported (for example) by original claims 12 and 14. In light of the amendments to claim 7, claims 8, 13, 14, and 19 have been canceled, and the dependency of claim 9 has been adjusted. Claims 15-18 have been amended to remove certain options for R<sup>6</sup> and R<sup>7</sup>. Claim 21 has been amended to remove the option of trifluoroacetylacetone for the fluorinated ketone. Claim 22 has been amended to more specifically describe the structures of the olefinic reactant and the fluorinated ketone. Definitions for R<sup>1</sup> to R<sup>5</sup> are provided, and such definitions are

supported (for example) by original claims 8, and 23. Definitions for  $R^6$  and  $R^7$  are provided, and such definitions are supported (for example) by original claim 28. In light of the amendments to claim 22, claim 23 has been amended and claims 28 and 29 have been canceled. Claims 30-33 have been amended to remove certain options for  $R^6$  and  $R^7$ . No new matter is added by these amendments.

***Rejection under 35 U.S.C. §112***

Claims 13-18 stand rejected under 35 U.S.C. §112 (paragraph not specified - see Action at page 2). The Examiner states that there is insufficient antecedent basis for the limitation " $R^6$  is selected from hydrogen" in the claims. Applicants have removed hydrogen as an option for  $R^6$  in claims 15-18, and canceled claims 13 and 14. Accordingly, applicants respectfully request withdrawal of the rejection.

***Rejection under 35 U.S.C. §102(b)***

Claims 7-9 and 22-24 stand rejected under 35 U.S.C. §102 as anticipated by Loh. The Examiner cites Scheme 1 on page 9333, the reaction of an allyl bromide with phenyl-trifluoromethyl ketone (Table 1, entries 1-8 page 9334), and the top-left product compound shown in Scheme 2 on page 9335. This rejection is traversed.

In the reactions cited by the Examiner, Loh exclusively employs ketones having fluorinated moieties on (at most) only one side of the carbonyl. Based on the reactants shown in Table 1 and the products shown in Scheme 2, Loh describes the use of  $\text{PhCOCF}_3$  and pyrrol- $\text{COCF}_3$ , neither of which contain fluorinated moieties on both sides of the carbonyl.

With the amendment made herein, however, claims 7 and 22 require contacting an olefinic reactant with a fluorinated ketone (or carbonyl compound), wherein the fluorinated ketone (or carbonyl compound) has the structure of formula (II)



In formula (II), both  $R^6$  and  $R^7$  are fluorinated groups. Thus, the carbonyl-containing compounds described in Loh are not encompassed within the definition for the fluorinated ketone (or

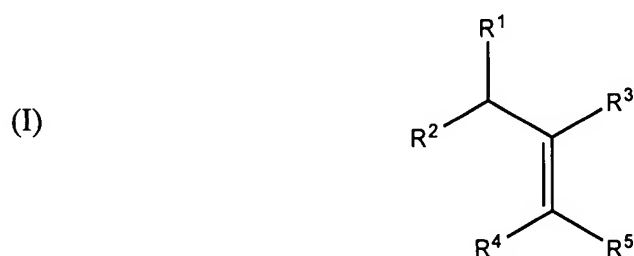
carbonyl compound) set forth in the pending claims. Accordingly, applicants respectfully request withdrawal of the rejection.

***Rejection under 35 U.S.C. §102(b)***

Claims 7, 13-18, 22, and 28-33 stand rejected under 35 U.S.C. §102 as anticipated by Urry, the Examiner citing reaction (13) on page 2306. This rejection is traversed.

In the reaction cited by the Examiner, 3-phenylpropene is reacted with 1-chloro-1,1,3,3,3-pentafluoropropan-2-one to prepare (E)-2-(chlorodifluoromethyl)-1,1,1-trifluoro-5-phenylpent-4-en-2-ol.

With the amendment made herein, however, claims 7 and 22 require contacting an olefinic reactant with a fluorinated ketone (or carbonyl compound), wherein the olefinic reactant has the structure of formula (I)



In formula (I), in part: R<sup>1</sup> is selected from hydrogen, C<sub>1</sub>-C<sub>24</sub> alkyl, substituted C<sub>1</sub>-C<sub>24</sub> alkyl, C<sub>1</sub>-C<sub>24</sub> alkoxy, and substituted C<sub>1</sub>-C<sub>24</sub> alkoxy; and R<sup>2</sup> is selected from hydrogen, C<sub>1</sub>-C<sub>24</sub> alkyl and substituted C<sub>1</sub>-C<sub>24</sub> alkyl. 3-phenylpropene would require that, in formula (I), R<sup>1</sup> or R<sup>2</sup> is phenyl. Thus, 3-phenylpropene is not encompassed within the definition set forth in the pending claims for the olefinic reactant. Accordingly, applicants respectfully request withdrawal of the rejection.

***Rejection under 35 U.S.C. §102(b)***

Claims 7-11, 13-19, 22-26, and 28-33 stand rejected under 35 U.S.C. §102 as anticipated by Nagai, the Examiner citing the reactions shown in Chart 1 on page 593 and in Table 1 on page 595. This rejection is traversed.

In the reaction shown in Chart 1, 2-octene is reacted with 1,1,1-trifluoroacetone to prepare (E)-1,1,1-trifluoro-2,3-dimethylnon-4-en-2-ol. Charts 2 and 3 (page 594) shows similar reactions, using 2-octene and CF<sub>3</sub>COR, where R = n-butyl, hexyl, or phenyl. Table 1 shows the

reaction of cyclohexene with  $\text{CF}_3\text{COR}$ , where  $\text{R} = \text{H}$ , Me, n-butyl, phenyl, iso-butyl, cyclohexyl, sec-butyl,  $\text{CF}_3$ , or hexyl.

With the amendment made herein, however, claims 7 and 22 require contacting an olefinic reactant with a fluorinated ketone (or carbonyl compound), wherein the fluorinated ketone (or carbonyl compound) has the structure of formula (II)




In formula (II),  $\text{R}^6$  and  $\text{R}^7$  are both fluorinated groups. Of all of the reactants used in Nagai, only  $\text{CF}_3\text{COCF}_3$  satisfies this limitation. For claim 22, the fluorinated carbonyl compound must be other than hexafluoroacetone. Furthermore, according to claim 7 as amended herein,  $\text{R}^6$  and  $\text{R}^7$  are different or taken together to form a ring when the olefinic reactant is not isobutylene, pinene, butenyl methyl ether, isopropenyl methyl ether, *exo*-2-methylene norbornane, 5-vinyl-2-norbornene, *exo*-methylene cyclopentane, or *exo*-methylene cyclohexane. As none of these olefinic reactants are mentioned in Nagai,  $\text{CF}_3\text{COCF}_3$  does not satisfy the limitations described in the claim (i.e., that  $\text{R}^6$  and  $\text{R}^7$  are different or taken together to form a ring). Withdrawal of the rejection is respectfully requested.

**CONCLUSION**

Applicants submit that the claims of the application are in condition for allowance. Applicants respectfully request withdrawal of the rejections, and prompt issuance of a notice of allowance. If the Examiner has any questions concerning this communication, or would like to discuss the application, the art, or other pertinent matters, a telephone call to the undersigned would be welcomed.

Respectfully submitted,

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